AMENDMENTS TO THE CLAIMS:

Please amend the claims as follows. This listing of claims will replace all prior listings.

1-10. (CANCELED)

11. (CURRENTLY AMENDED) A system to enhance situational awareness in a vertical take-off and landing (VTOL) aircraft in close proximity to the ground in a degraded visual environment (DVE), comprising:

a sensor suite that receives environmental information;

an imaging system that receives imagery;

a data fusion processor in communication with said sensor suite and said imaging system; which compiles said environmental information and said imagery information into a combined output; and

a display in communication with said data fusion processor, said display generating symbology in response to said combined output , said symbology relates an aircraft velocity vector relative an aircraft current position point and an acceleration ball relative said velocity vector.

~~which displays an aircraft current position relative to a designated landing point to facilitate a landing at the designated landing point.~~

12. (PREVIOUSLY PRESENTED) The system as recited in claim 11, wherein said display includes a heads up display.

13. (PREVIOUSLY PRESENTED) The system as recited in claim 11, wherein said display includes a head down multifunctional display.

14. (PREVIOUSLY PRESENTED) The system as recited in claim 11, wherein said display includes a helmet-mounted display.

15. (PREVIOUSLY PRESENTED) The system as recited in claim 11, wherein said imaging system includes a forward looking infrared (FLIR) system, said data fusion processor overlaying FLIR imagery on said display.

16. (PREVIOUSLY PRESENTED) The system as recited in claim 11, wherein said imaging system includes a video system, said data fusion processor overlaying said video imagery on said display.

17. (PREVIOUSLY PRESENTED) The system as recited in claim 11, wherein said data fusion processor combines said environmental information and said imagery information with an obstacle avoidance system.

18. (PREVIOUSLY PRESENTED) The system as recited in claim 17, further comprising a fly by wire (FBW) system in communication with said data fusion processor, said FBW system operable to provide automated obstacle avoidance in response to said obstacle avoidance system.

19. (PREVIOUSLY PRESENTED) The system as recited in claim 17, further comprising a fly by wire (FBW) system in communication with said data fusion processor, said FBW system operable to command a stabilized flight condition in response to said combined output.

20. (PREVIOUSLY PRESENTED) A system to enhance situational awareness in a vertical take-off and landing (VTOL) aircraft in close proximity to the ground in a degraded visual environment (DVE), comprising:

a sensor suite that receives environmental information;

an imaging system that receives imagery information;

a data fusion processor in communication with said sensor suite and said imaging system;

which compiles said environmental information and said imagery information into a combined output; and

a display in communication with said data fusion processor, said display generating symbology in response to said combined output which displays an aircraft current position relative to a designated landing point, said symbology relates an aircraft velocity vector relative an aircraft current position point and an acceleration ball relative said velocity vector.

21. (PREVIOUSLY PRESENTED) The system as recited in claim 20, wherein said acceleration ball is indexed relative an end of said velocity vector opposite said aircraft current position point.

22. – 29. (CANCELLED)

30. (CURRENTLY AMENDED) A method to facilitate flying a vertical take-off and landing (VTOL) aircraft in close proximity to the ground in a degraded visual environment (DVE) comprising the steps of:

(1) fusing environmental information from a sensor suite with imagery information from an imaging system into a combined output;

(2) communicating the combined output to a fly by wire (FBW) control systems to maneuver the VTOL aircraft in close proximity to the ground;

(3) generating symbology in response to said combined output which relates an aircraft current position relative to a designated landing point to facilitate a landing at the designated landing point, said symbology relates an aircraft velocity vector relative an aircraft current position point and an acceleration ball relative said velocity vector; and

(4) displaying the symbology.

31. (PREVIOUSLY PRESENTED) A method as recited in claim 30, wherein said step (3) further comprises fusing FLIR imagery data from an imaging system with the symbology.

32. (PREVIOUSLY PRESENTED) A method as recited in claim 30, wherein said step (3) further comprises fusing terrain avoidance data with the symbology.

33. (PREVIOUSLY PRESENTED) A method as recited in claim 32, wherein said step (2) further comprises communicating a flight command to the FBW control system in response to the combined output to avoid a terrain obstacle.

34. (PREVIOUSLY PRESENTED) A method to facilitate flying a vertical take-off and landing (VTOL) aircraft in close proximity to the ground in a degraded visual environment (DVE) comprising the steps of:

(1) fusing environmental information from a sensor suite with imagery information from an imaging system into a combined output;

(2) communicating the combined output to a fly by wire (FBW) control systems to maneuver the VTOL aircraft in close proximity to the ground;

(3) generating symbology in response to said combined output which relates an aircraft current position relative to a designated landing point by displaying a distance and direction between an aircraft current position relative to the designated landing point; and

(4) displaying the symbology.

35. (PREVIOUSLY PRESENTED) A method as recited in claim 34, wherein said step (3) further comprises displaying an aircraft velocity vector relative the aircraft current position point and an acceleration ball relative said velocity vector, the acceleration ball movable relative an end of the velocity vector opposite the aircraft current position point to display a velocity trend.

36. (PREVIOUSLY PRESENTED) A method as recited in claim 35, wherein said step (3) further comprises:

(a) displaying an above ground level (AGL) altitude tape and an altitude ascent/descent trend tape adjacent the AGL altitude tape; and

(b) coloring the altitude ascent/descent trend tape in response to a relationship between an aircraft altitude and a descent trend.

37. (PREVIOUSLY PRESENTED) A method as recited in claim 36, wherein said step (3) further comprises:

(a) displaying an auto decel constraint circle representing an automated hover hold system in the FBW system; and

(b) communicating with the FBW control system to activate an automated hover hold system in response to the velocity vector and the acceleration ball being contained within the auto decel constraint circle.

38. (CURRENTLY AMENDED) A system to enhance situational awareness in a vertical take-off and landing (VTOL) aircraft in close proximity to the ground in a degraded visual environment (DVE), comprising:

a sensor suite that receives environmental information;

an imaging system that receives imagery information;

a data fusion processor in communication with said sensor suite and said imaging system; to compile said environmental information and said imagery information into a combined output; and a display in communication with said data fusion processor, said display generating symbology in response to said combined output to display an aircraft current position relative to a designated landing point, said display generates symbology in response to said combined output which relates aircraft state information relative to the designated landing point to cue the pilot to control the aircraft to touchdown at the designated landing point, said aircraft state information includes a velocity vector and an acceleration ball.

39. (CANCELED)

40. (CURRENTLY AMENDED) The system as recited in claim ~~39~~ 38, wherein said acceleration ball is indexed relative an end of said velocity vector opposite an aircraft current position point which defines the aircraft position relative the designated landing point.

41. (PREVIOUSLY PRESENTED) The system as recited in claim 38, wherein said designated landing point is an input to said data fusion processor.

42. (NEW) The system as recited in claim 11, wherein said display generating symbology in response to said combined output displays an aircraft current position relative to a designated landing point to facilitate a landing at the designated landing point.

43. (NEW) The system as recited in claim 11, wherein said acceleration ball is color coded to indicate when an acceleration is within a predefined limit.

44. (NEW) The system as recited in claim 11, wherein said acceleration ball is indexed relative an end of said velocity vector opposite said aircraft current position point.

45. (NEW) The system as recited in claim 44, further comprising an auto deceleration constraint circle defined about said aircraft current position point, automatic hover control initiated by a FBW system in response to said velocity vector and said acceleration ball being contained within the auto deceleration constraint circle.

46. (NEW) The system as recited in claim 11, wherein said velocity vector extends and retracts in length relative said aircraft current position point in proportion to an aircraft ground speed.

47. (NEW) The system as recited in claim 11, wherein an azimuth direction of said velocity vector is approximately equal to an angle between a ground track of an aircraft center of mass and an aircraft centerline.

48. (NEW) The system as recited in claim 11, wherein said acceleration ball is referenced to an end of said velocity vector such that at zero aircraft acceleration said acceleration ball remains at rest over said end of said velocity vector, said acceleration ball movable with respect to said end of said velocity vector a distance in proportional to the acceleration, said acceleration ball movable away from said aircraft current position point in response to aircraft acceleration and said acceleration ball movable toward said aircraft current position point in response to aircraft deceleration.

49. (NEW) The system as recited in claim 11, further comprising an ascent/descent altitude trend tape which predicts an aircraft altitude above ground level at a predetermined time period.

50. (NEW) The system as recited in claim 49, wherein said ascent/descent altitude trend tape is color coded.

51. (NEW) The system as recited in claim 49, wherein said ascent/descent altitude trend tape is located adjacent a current aircraft altitude tape, said ascent/descent altitude trend tape including an altitude tick fixed to an end thereof which identifies said aircraft altitude above ground level.

52. (NEW) The system as recited in claim 11, wherein an azimuthally direction of said velocity vector is approximately equal to an angle between a ground track of an aircraft center of mass and an aircraft centerline.